



Clot in Transit with Impending Paradoxical Embolism: Early Intervention with Early Recovery

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Received:  November 23, 2022

Published:  December 05, 2022

Abstract

48-year-old female presented with dyspnea and fatigue. CT imaging found pulmonary embolus. Echocardiogram noted biatrial thrombus extending through mitral and tricuspid valve, as well as through a patent foramen ovale (PFO) (Figures 1 & 2). She underwent emergent sternotomy, embolectomy of left and right atria, left and right pulmonary arteries, and atrial septal defect closure (Figure 3). She progressed well post-operatively and was discharged on postoperative day 7 on therapeutic anticoagulation. Three year follow up, alive and no complications from the procedure.

Keywords: Clot in Transit; Impending Paradoxical Embolism; Patent Foramen Ovale



Figure 1: Echocardiogram noting mobile clot in the right atrium with PFO.

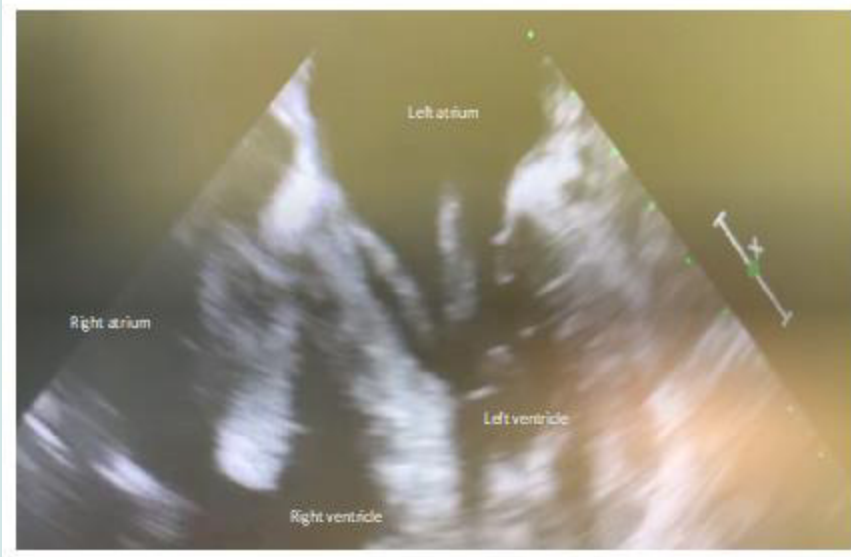


Figure 2: Echocardiogram noting mobile clot extending through both tricuspid and mitral valve.

Introduction

Pulmonary embolism is a blockage of a pulmonary artery. A 'clot in transit', which is a rare form of thrombus that extends from the right atrium through the tricuspid valve. Mortality estimated at approximately 45% [1]. Increasingly rare is the 'Impending Paradoxical Embolism' (IPDE), which is defined as the

thrombus extending across an atrial septal defect. IPDE has shown decreased mortality with surgical intervention when the patient is hemodynamically stable, but thrombolytic therapy if unstable, although limited research on mortality and outcome with medical management [2]. This study received a waiver from the IRB at our institution.

Case Report

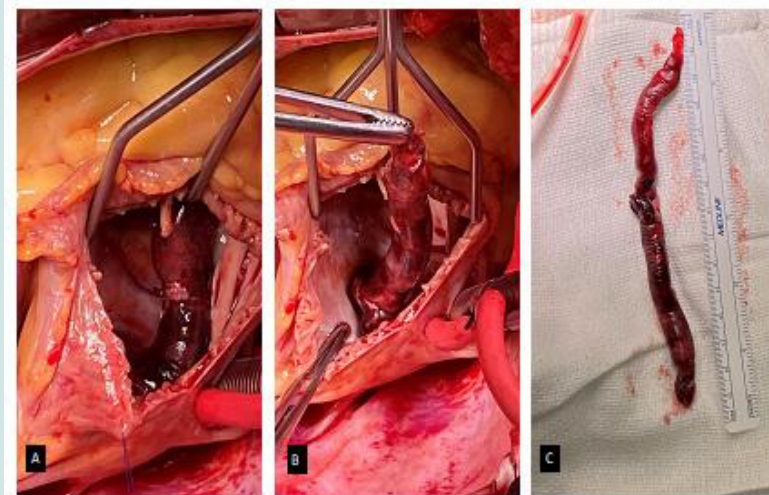


Figure 3: Intraoperative photographs, A) demonstrating thrombus visualized within the right atrium. B) Clot being removed with distal portion remaining within the PFO. C) Clot in its entirety after removal.

48-year-old female presented with dyspnea and fatigue. CT imaging found pulmonary embolus and a heparin drip was initiated. She later developed chest pain which led to an echocardiogram. This imaging noted biatrial thrombus extending through mitral and tricuspid valve, as well as through a Patent Foramen Ovale

(PFO) (Figures 1 & 2). She underwent emergent sternotomy and was placed on cardiopulmonary bypass. The left and right atria were explored, and a mechanical embolectomy performed of both the left and right atria and left and right pulmonary arteries. After complete removal of the clot, the atrial septal defect was

closed with a pericardial patch (Figure 3). She was weaned from bypass and had no immediate complications. She progressed well post operatively and was discharged on postoperative day 7 on therapeutic anticoagulation. Three year follow up remains healthy and without complications of this procedure.

Discussion

While both 'Clot in Transit' and the rarer IPDE are associated with high morbidity and mortality, our study outlines a case of

prompt intervention leading to both short term and long-term success in terms of outcomes and survival.

References

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DOI: 10.32474/SCSOAJ.2022.07.000259



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